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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,989

09/26/2005

Daniel Zauner

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6988

41288 7590 02/27/2009

PATENT CENTRAL LLC
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EXAMINER

JENNISON, BRIAN W

ART UNIT

PAPER NUMBER

4184

MAIL DATE

DELIVERY MODE

02/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,989	Applicant(s) ZAUNER ET AL.	
	Examiner BRIAN JENNISON	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendments/Arguments

Applicant's arguments/amendments filed 1/7/2009 have been fully considered but they are not persuasive as for the following reasons:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 as amended are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of "at least one sheet" at line 2 is unclear. Is it "at least one sheet" is one of the "coated sheets" recited at line 1 in the preamble (also note in claim 7)? If it is, then "at least one sheet" should be read as "at least one of said coated sheets". There is insufficient antecedent basis for "the surface" recited at lines 2-3 in the claim. Is "surface" the same as "on at least one side" recited at lines 1-2? It is understood that each sheet should have two sides or surfaces. Clarification is needed. Furthermore, the recitation of "the laser beam facing side of the sheet" at line 6 also renders the claim indefinite because it is unclear whether such "facing side" is the same as "surface" or "at least one side" recited earlier in the claim (also note in claim 5, "the side facing" recited at line 3 and claim 6, "the side facing away". The phrase "at least one topographical change on the laser beam facing side of the sheet, or on that side of the at least one sheet which faces away from said beam" recited at lines 5-7 is so vague and can not be clearly understood since this alternative recitations is improper and

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<#>Applicant's arguments filed 1/7/2009 have been fully considered but they are not persuasive. See Examiner's remarks below.¶<#>¶

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make the scope of the claim uncertain. It appears that "laser beam facing side" was the same as "that side", however, "that side of the at least one sheet which faces away from said beam" appeared not the same as the "laser beam facing side" (also note in claims 5 and 6). There is also insufficient antecedent basis for "the region" recited at line 7 in the claim (also note in claim 7). Such region must be clearly defined. It is noted that the claim was intended to be a method, however, the claim does not positively set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass.

Claim 2 is unclear for intending to further limit claim 1. As noted in claim 1, the laser beam has been understood as being focused upon the surface (i.e., directing a laser beam onto the surface", and claim 2 is now reciting "the laser beam is not focused upon the surface". Thus, the metes and bounds of claim 2 is uncertain.

In claim 3, there are insufficient antecedent bases for "the at least one coated sheet" recited at line 2, "the formation" recited at line 3, "the at least two sheets" recited at lines 3-4, "the region" recited at line 4, and "the process" recited at line 5 in the claim or from the preceding claim 1. Are "formation" and "region" the same? The recitation of "formation, region and process must be clearly defined.

In claim 4, since there is no configuration detailed for the topographical change provided, the recitation of "the resultant weld seam" at line 2 is indefinite and lacks antecedent basis in the claim or from the preceding claim.

In claim 5, "the side facing the laser" recited at line 3 lacks antecedent basis from the preceding claim 1 since as noted in claim 1, there is the "laser beam facing side" but not the "laser facing side".

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In claim 6, , "the side facing away from the laser" recited at line 3 lacks antecedent basis from the preceding claim 1 since as noted in claim 1, there is the "...side.....which faces away from said beam facing side" but not the "laser".

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Claim 7 is indefinite as for the similar reason set forth in claim 1 above.

Additionally, it is unclear whether "that side" recited at line 7 and "at least one side" recited at lines 1-2 are the same. The phrase "wherein said melting through is controlled by *pre-specifying the processing time or by providing a penetration sensor* which regulates the laser machining time" recited at lines 9-10 is so vague and can not be clearly understood since such alternative recitation is improper and make the scope of the claim uncertain. It appears that "processing time" was not the same as "penetration sensor". There is also insufficient antecedent basis for "the processing time" in the claim. Similarly, it is noted that the claim was intended to be a method, however, the claim does not positively set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. Furthermore, the use of transitional phrase such as "wherein....." is considered merely functional languages which may not have any patentable sense.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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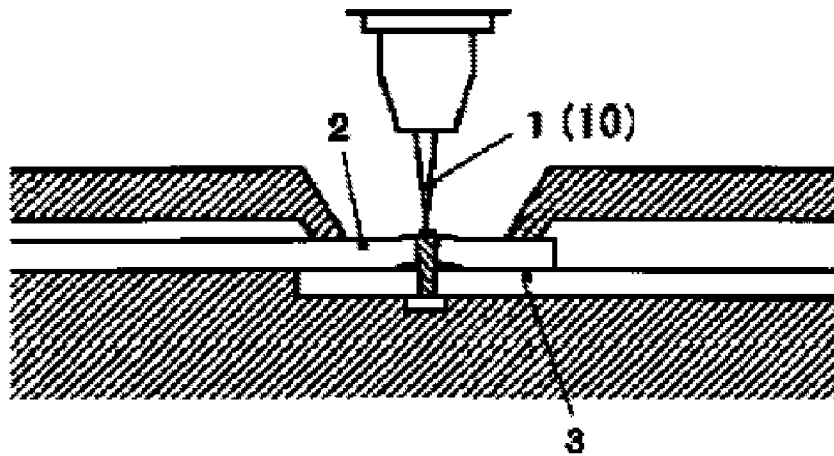
2. Claims 1 and 3-6 as amended are rejected under 35 U.S.C. 103(a) as being unpatentable over FUJIMOTO et al (JP 2002-178178 A cited by applicant) as evidence by Dunskey et al (US 2001/0045419) in view of ISO et al (JP 2000-301374 A cited by applicant).

Fujimoto et al teaches (re claim 1 and 6) a laser lap welding method in which a protrusion 2a is formed, by melting, on the side sheet 2 facing away from laser 1. (See Drawing 1 and Paragraphs [0018]—[0020]) (re claim 3) the protrusion on the side facing away from the laser is welded to a second sheet so that the zinc vapor can escape through the gap formed by the protrusion. (See Drawing 2 and Paragraphs [0021]–[0024]) (re claim 4) the sheets 2 and 3 are fused together by welding which is performed by a second laser so the weld line is the same line as protrusion 2a. (See Paragraph [0026]).

Regarding Claims 1: The laser describes about the center of its machining area in a narrowing spiral. (This is merely an inherent characteristic shown by Dunskey et al (US 2001/0045419) See Figs. 21, 22, 32. which all show a narrowing spiral weld pattern.)

Regarding Claim 5, Fujimoto et al teaches a protrusion on the side facing the laser and the side facing away from the laser as shown in drawing 3.

[Drawing 3]



Fujimoto et al fails to show the use of a scanner for directing the laser beam.

It is well known in the art to use a scanner for directing laser beam, as evidence, Iso et al teaches (re claim 1) a scanner for directing the laser beam wherein "a laser beam is introduced into the 1st galvanoscanner 14, and while branching introduces the laser beam of another side into the 2nd galvanoscanner 16 by the mirror 15. The structure of galvanoscanner is provided with the 2nd galvanomirror for making the laser beam from the 1st galvanomirror and this 1st galvanomirror for making a laser beam shake at an X axial direction shake at Y shaft orientations. Thus, the laser beam which

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came out of the 1st and 2nd galvanoscanner is irradiated on the work 20 through the ftheta lenses 17 and 18, respectively.” (See Paragraph [0013])

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in FUJIMOTO et al, the scanner taught by Iso et al in order to direct the laser beam with a greater working speed (see paragraph 5, 9 and 31 of Iso et al) as well as good precision.

3. Claim 7 as amended is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto as evidence by Dunskey et al (US 2001/0045419) in view of Leong et al (US Patent No. 6,329,635).

4. Fujimoto et al as evidence by Dunskey et al discloses substantially all features of the claimed invention as set forth above except for the-melting through is controlled by pre-specifying a processing time or by providing a penetration sensor which regulates the laser machining time.

Leong et al teaches a method for weld and laser heat treatment monitoring which involves determining depth penetration wherein the machining time can be controlled in term of a calibration curve. Where in order to-determine weld penetration from the weld monitor signal, a calibration curve is required. This curve can be constructed for a particular component from test welds made by varying the laser power level at constant speed. Defects are often caused by changes in beam power and part geometry rather than speed. After sectioning and polishing, the weld penetration can be measured and correlated with the DC signal from the weld monitor. Using the design specifications for

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the component of interest, upper and lower control limits could be determined for process monitoring as set forth at column 9, lines 33-43).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Fujimoto et al as evidence by Dunskey et al, the calibration curve to pre-specify the processing time as taught by Leong et al in order to control the melting through the object or sheet depend upon the laser power level, speed, geometry, or design specifications if so desired.

REMARK

In response to applicant's argument, page 7, paragraphs 8-9, page 8, paragraphs 1-2, page 9, paragraphs 1-3 and page 8, paragraph 6, that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation for combining the references is given. Iso teaches the scanner for guiding the laser and directing the laser beam at a greater working speed. All arguments are directed toward the claims as being unobvious in light of the claims being amended to include the narrowing spiral. One of ordinary skill in the art would recognize the reason

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Fujimoto et al teaches a protrusion on the side facing the laser and the side facing away from the laser as shown in drawing 3. ¶
The laser describes about the center of its machining area in a narrowing spiral. **(This is merely a design choice as shown by Dunskey et al (US 2001/0045419) See Figs. 21, 22, 32, which all show a narrowing spiral weld pattern.)** ¶

Response to Arguments

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<#>Applicant's arguments filed 1/7/2009 have been fully considered but they are not persuasive. See examiner's comments below. ¶
Regarding Claim 1: the laser beam is guided to describe about the center of its machining area in a narrowing spiral...the laser beam facing the side of the sheet. ¶
See claim rejections below. ¶
Claims 5 and 6 are now given patentable weight in response to applicant's argument on page 7, paragraph 4. ¶
¶
Regarding Claim 8: The applicant's argument for removal of the 112nd and 2nd paragraphs is considered moot in light of the cancellation of this claim. ¶
<#>¶
<#>No argument is made to claims 3-4, 7. Therefore it is deemed that the applicant concedes to the examiners rejection of the claims. ¶
¶
<#>Applicant's arguments on page 8, paragraph 1 and page 9, paragraphs 1-3, with respect to claims 1-2, 5-7 have been considered but are moot in view of the new ground(s) of rejection as set forth See rejections above. ¶

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for combination of these devices to produce a weld of a desired pattern due to the motivation previously stated.

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5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Regarding Claims 1-7: The case of the narrowing spiral is rejected above and applicant's arguments are considered moot. ¶

Comment [11]: Make Final necessitated by amendments? If so, use the correct form paragraph. Also need to respond to all arguments, following applicant's outline.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN JENNISON whose telephone number is (571)270-5930. The examiner can normally be reached on M-Th 7:00AM-5:00PM.

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<#>**THIS ACTION IS MADE FINAL.**
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). ¶
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action. ¶

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN JENNISON/
Examiner, Art Unit 3742

2/13/2009

/TU B HOANG/

Supervisory Patent Examiner, Art Unit 3742

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